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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/506,921

09/03/2004

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06/30/2008

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EXAMINER

CREPEAU, JONATHAN

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

06/30/2008

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/506,921	<b>Applicant(s)</b> KUBOTA, TADAHIKO	
	<b>Examiner</b> Jonathan S. Crepeau	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-10 is/are pending in the application.
- 4a) Of the above claim(s) 3-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office action addresses claims 1 and 3-10. Claims 3-10 remain withdrawn from consideration. Claim 1 is new rejected under 35 USC 103, as necessitated by amendment. Accordingly, this action is made final.

### ***Claim Rejections - 35 USC § 103***

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 8-203561 in view of WO 99/52824.

JP '561 is directed to a lithium secondary battery comprising a positive electrode, an electrolyte and a negative electrode comprising a carbon material or a lithium metal (see abstract). The electrolyte comprises hydroquinone, which corresponds to the "aromatic compound" of instant claim 1. The electrolyte further comprises a solvent and a lithium salt (see [0010], [0011] of machine translation). The battery may further comprise an aluminum current collector for the negative electrode (see [0021]).

The reference does not expressly teach that the electrolyte comprises a precipitate film formed from the aromatic compound, as recited in claim 1.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the claimed precipitate film would be formed during normal manufacturing of the battery of JP '561 if it contains a lithium metal anode. As

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recited in claim 1 and as disclosed in the instant specification, the precipitate film is formed on a metal lithium layer which is also formed during a battery charging process. The skilled artisan would have sufficient knowledge to construct the battery of JP '561 according to this process, thereby resulting in a deposited lithium layer and a precipitate film. As evidence of this knowledge, the following passage from WO 99/52824 (English equivalent: US 6,652,605) is cited: (col. 10, line 34 of US '605):

Similarly, in batteries using a lithium metal negative electrode, the cell is assembled in the discharged state, the reserve of lithium ions is already contained in the positive electrode material according to the invention and the cell begins its life by being charged, in other words by the lithium deposit derived from the active material of the positive electrode being deposited on the negative electrode, instead of a material removal, in other words material is not removed from the lithium metal negative electrode during the first discharge, thus improving the quality of the negative electrode/electrolyte interface during cycling.

As this passage states that batteries having lithium metal anodes are assembled in a discharged state and then charged, thus depositing the lithium metal layer, it would be obvious to assemble the battery of JP '561 in this manner. Therefore, upon performing this process, the electrolyte of JP '561 would contain the "precipitate film" recited in instant claim 1 because the claimed process of forming the film is substantially identical to the process of WO '824. Accordingly, claim 1 would be obvious over these references.

***Conclusion***

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jonathan Crepeau/  
Primary Examiner, Art Unit 1795  
July 1, 2008